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ABSTRACT

Crime and vandalism on farms is possibly a symptom of rural youth delinquency and of concern to rural educators. This study of experience of Tennessee farmers with crime and vandalism is intended to provide a measure of the present social condition of rural society. Questionnaires were mailed to a weighted sample of farm operators in all Tennessee counties. The 531 usable returns represented a 75% return rate, a very high response for a lengthy mailed questionnaire. Respondents were 100% white and 94% male with a median age of 60 and a median education of high school graduate. Median farm size was 315 acres, over twice the median size of all Tennessee farms. Among responding farmers, 24% reported some vandalism on their farms in the preceding 12 months, 9% reported a burglary, and 17% reported a theft. Vandalism damage ranged as high as $8,000, with a mean of $644. Burglary losses ranged up to $15,000, with averages of $1,343 for house, $758 for barn, and $514 for other farm buildings. Losses from theft ranged up to $6,000, but were generally small. About 54% of farmers felt the crime and vandalism situation had remained the same in the last 2 years, while 42% felt it had gotten worse. Only 19% had insurance or security devices, but most took some form of protective action. Larger farm operators tend to feel that the Sheriff was not thorough in handling crimes on farms and that the court was too lenient with the convicted. Information about crime prevention came from both institutional and personal sources. Stiffer penalties and more frequent patrolling by police were endorsed for improving the situation. This report contains 23 data tables of responses to survey questions. (SV)

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Farmer Opinions About and Experience With

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CRIME AND VANDALISM ON FARMS IN TENNESSEE: Farmer Opinions About and Experience With[1]

Charles L. Cleland[2]

The extent to which crime and vandalism on farms in Tennessee is a serious problem is something of an unknown. There are incidents that get reported in the newspapers and on television which suggest that the problem is very serious. For those who are the targets of such incidents the problem is very serious but there is a lack of systematic information on just how extensive such experiences are. The Uniform Crime Reports provide some information. These reports are assembled by the Department of Justice based on the reports of crimes dealt with by the various police jurisdictions across the country. They are not normally broken down into farm and non-farm categories and even if they were, there is every reason to expect that they would be subject to serious under-reporting. Rural residents tend to be reluctant to report incidents that 1) seem to be minor infractions of the "boys will be boys" type or 2) involve neighbors because such reporting could further deteriorate already questionable relations with one's neighbors.

Another potential source of information on the seriousness of crimes on farms is insurance companies that carry various types of farm insurance. Such companies have a need for such information to enable them to set appropriate rate levels for the hazards they cover. Extending the results of insurance company reports to all farms is problematic, however, because the population upon which such studies are based are normally limited to the farmers that carry farm insurance of one sort or another. Since not all farmers carry insurance that covers loss from crime or vandalism, it is difficult to project accurately from such reports.

The study

With increasing numbers of reports of serious crimes in rural areas and a lack of systematic data from Tennessee, a survey was conducted to determine the extensiveness and seriousness of crime and vandalism on Tennessee farms. Farm operators in all of Tennessee's 95 counties were sent questionnaires by mail in February and March of 1989. The sample was selected from a list of names of farm operators supplied by the Tennessee Farm Bureau. Seventy-five percent of those eligible to participate in the study completed the 16-page questionnaires resulting in 531 usable forms being returned. This return rate is very significant because the usual rate for mailed questionnaires is between 30 and 40 percent even when the form is relatively brief. The topic is clearly deemed to be important by Tennessee farmers!

To assure as accurate a representation of Tennessee farmers as possible, the sample selected was weighted in two ways. First, a minimum number of

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[1]A contribution to Southern Regional Project S-193, Victimization and Prevention of Rural Crime in the South. The assistance of Morgan D. Gray with the statistical work is gratefully acknowledged

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names from each county was selected to make certain that all areas of the state were represented. Second, additional names were selected for each county based on the number of farmers reported in the 1982 Census of Agriculture to assure that the results would reflect the concentration of farms.

For purposes of analysis the farms in the study were divided into "large" and "small" in anticipation that the experiences of the operators of the different sizes of farms would vary somewhat. The dividing point between the two sizes was the median value of 315 acres which divided the sample into approximately equal subcategories. This is substantially larger than the 147 acres reported as average for the state in the 1987 Census of Agriculture.[1] This indicates that the sample over represents larger farms and to that extent is less than precisely representative of all farms. Given the source of the names from which the sample was drawn, this result is not surprising. According to Leuthold, "members of general farmer organizations have larger operations than do nonmembers on the average."[2] In spite of this limitation, the results are reasonably precise on a statewide basis. Where there are significant differences between the large and small farms in the sample, however, the differences will actually be greater than those shown. The effect then is to underestimate differences that actually exist thus providing a conservative estimate of the relationship and strengthening confidence in the findings.

This study was part of a larger regional effort being carried out under the auspices of the Agricultural Experiment Stations of a number of southern Land Grant Universities.[3] The same questionnaire and sample frame were used in each of participating states.

Chi-square was used to test for the statistical significance of differences between the operators of large and of small farms. The .05 level of probability was accepted as significant.

The Results

Opinions about the current situation on farm crime and vandalism in the local community (Table 1):

Of the thirteen opinion areas the farmers were asked to rate, the strongest rating was given to the duty of those experiencing crimes to report such to the sheriff. Clearly there is some conviction that the existing office for control of crime can function effectively only if it is supplied with knowledge of instances of crime. Tennessee farmers also strongly agree that "the courts are too easy on persons convicted of crimes to farms" and that "vandalism (destruction or defacing) of farm property occurs more often now than it did a few years ago." The strength of feeling about the likelihood of hunters doing damage to farm property was not quite as strong as for those just mentioned but significant differences between the operators of large and small farms were found. Those who operated larger farms were more concerned about such damage by hunters.

Worry about the safety of the farm property while the operator is away is another concern shared by those operating large and small farms alike. The fond memories of being able to go off without worrying about locking the doors to the house or other buildings on the farm are now just that: fond memories for most farm operators.

Four opinion areas with which the farmers tended to agree but the

agreement was not very strong included illegal dumping on farm property, feeling safe about going anywhere on the farm after dark, being able to count on neighbors to watch the property when one is absent, and a recent increase in theft of local farm property. Four other areas were matters of uncertainty or at least a tendency for nearly equal numbers of agreement as disagreement including whether farmers should be required by law to put identification numbers on farm machines and equipment, that farmers can do little to prevent crime from happening to their farms, that the local sheriff is thorough in his investigation of crimes against farm property, and that current laws are adequate to protect farm property. On the last two matters, the operators of small farms are more likely to agree that the sheriff is thorough and that the laws are adequate than are those who operate larger farms.

Opinions about the change in frequency of local farm crime in the last two years (Table 2):

Slightly more than half of the farm operators surveyed felt that there had been little change in the frequency of farm crimes in the past two years. The others mostly felt that there had been an increase in the frequency. The ratio of those who felt there had been an increase to those who felt it had decreased was almost 10 to 1 with no significant difference between the operators of large and small farms.

Own experience with <u>vandalism</u> in the last 12 months (Table 3):

Almost one fourth of the operators of farms in Tennessee indicated that they had experienced some vandalism in the preceding year. Put another way, three-fourths of the farm operators indicated no experience with vandalism during this period. The operators of larger farms experienced vandalism more frequently. Only two in eleven small farm operators reported recent experience with vandalism as compared with three of ten operators of large farms. The ability to see essentially all of the farm from the house for the small farms may explain a large part of this difference.

No difference was found between large and small farms in terms of what was vandalized (Table 4). Of those who had some property vandalized, nearly half reported that farm fences and gates were involved. Roadside littering was mentioned by nearly a third of those experiencing vandalism while one fifth indicated that crops and farm machinery were the targets. Approximately one sixth had damage to livestock, woods and farm buildings with farm equipment and materials being mentioned by one tenth of the farmers. The water supply and orchards were also damaged on a small number of farms.

Own experience with <u>burglary</u> in last 12 months (Table 5):

Nine percent of farmers had one or more structures on their farms entered by unauthorized personnel during the year preceding the survey. While the percentage difference between large and small farms was not great, the larger farms had more experience with such a problem than did the smaller farms. One fourth of those experiencing burglary indicated a dollar value on the loss connected with it. The range of loss was from just a few dollars to fifteen thousand in one instance. While the incidence is low, the potential for substantial loss is certainly there.

Own experience with theft in last 12 months (Table 6):

Three fourths of the operators of large farms indicated that they had had no thefts during the preceding twelve months compared with nine tenths of the operators of smaller farms having none. This difference is statistically significant. Farm equipment was most frequently stolen with farm material, such as feed and fertilizer, and livestock not far behind.

Earlier experience with farm crime and vandalism (Table 7):

The preceding sections dealt with only the past twelve months. Since the last year might not have been entirely representative of their experiences in the past, the operators were asked to give some indication (in terms of Never, Sometimes or Often) of the frequency with which they had experienced various types of crime and vandalism over the years. On this limited scale there were no differences between the operators of large and small farms for any of the individual items. For all of those who considered the items as applicable to their situations, the responses tended to be either sometimes or often with very few saying never. This indicates that instances of crime or vandalism get sharply etched in the memory and, even though they may not have occurred in the recent past, they are not forgotten.

The responses to these items may have included instances of events on other, nearby farms as well as on their own. Given the low incidence of specific types of crime and vandalism in the last twelve months, few if any would have experienced more than one type "often" even if that term is interpreted to mean as frequently as once a year. What is clear is that most of the respondents felt that they had experienced nearly all of the various types of crime and vandalism mentioned with some regularity.

Use of security devices on the farm (Table 8):

The most frequently used "device" for security on Tennessee farms is having all of the farm buildings visible from a neighbor's house. As might be expected, this is truer for small farms than it is for large. Locks on fuel storage tanks is one of the more frequently used protective measures with little difference between large and small farms. The use of lights on buildings and in strategic places on the farm is also relatively frequent with the operators of larger farms employing them more frequently. The operators of larger farms also use "no trespass" or other warning signs more frequently than do those with smaller acreages. Locks on barns and other farm buildings tend to be used rather infrequently for both large and small farms. Locks on farm gates are also fairly infrequent but the operators of large farms make more use of them than do the operators of small farms. Various other devices are rarely used with no farmers reporting having alarm systems in farm buildings.

While the responses for the various devices included in the list in Table 8 were most frequently "some" or "none," that does not mean that Tennessee farm operators make no effort to protect themselves and their property. Two thirds of the operators reported possession of a hand gun for protection with the operators of large farms being the more frequent possessors. The proportion is probably larger than that because a substantial number of the respondents did not answer this question one way or another.

One possible explanation for such omission is that they were reluctant to let anybody know whether they did or not have a handgun, even with assurances of confidentiality, for fear that the information might get into the wrong hands. More than half indicated having a watch dog for protection while one tenth checked having geese or guineas to announce the presence of strangers, with this last being more frequently reported on smaller farms. A little over seven percent noted that they had either a shotgun or rifle or both for protection.

Frequency with which protective actions taken (Table 10):

Three protective actions approach the "often taken" rating level among Tennessee farm operators. These include having a neighbor watch the farm when the operator is away, using brands, ear tags or notches or other means to identify livestock, and having insurance on farm machinery. The operators of large and small farms do not differ significantly in these actions but it should be noted that the difference approaches significance at the .05 level for the livestock identification measures.

Four measures cluster around the "sometimes" level of action taken. These include keeping a record of serial numbers for farm machinery and equipment, leaving machinery in the fields out of sight of the house overnight, having theft insurance on livestock and keeping farm building doors locked. The operators of large farms do the first two of these more frequently than do those who have smaller farms. In the case of leaving machinery out of sight from the house overnight, getting machinery back to the home area every night could be a considerable task where the distance from "home" is large. The greater frequency of machinery vandalism and theft reported by the operators of large farms is consistent with this indication that such machinery is more frequently left overnight out of sight from the house.

Six of the protective measures clustered between the "sometimes" and "never" categories. The operators of large farms take the measures of keeping farm gates locked and putting name or identification numbers on farm machinery more often than do those with smaller acreages. On the other measures they did not differ. These included putting names or identification numbers on farm tools and other equipment, keeping windows of farm buildings locked, carrying theft insurance on crops and informing the sheriff when expecting to be away for several days. This last measure suggests something of the mixed perception that farm operators have of the sheriff's office. On the one hand agreement was strong that **all** instances of crime or vandalism should be reported to the sheriff. On the other reporting to the sheriff's office that they will be away from home for some time met with some resistance. As with the reluctance to include information about the possession of hand guns in this survey for fear the information just **might** get into the wrong hands, so informing the sheriff's office about an absence **might** provide information to someone who would take advantage of such an opportunity.

Two possible protective measures were included in the survey which farmers in Tennessee almost never use. These were tattooing bales, sacks or crates used for crops and mixing identification confetti with grains. The limited number of commercial grain farmers included in the study may partially account for this finding.

Annual costs for protection from crime and vandalism (Table 11):

Three fourths of the farmers indicated that they had paid nothing for farm insurance or security devices during the three years prior to the survey. This question was not answered by 5.5 percent of the respondents. The nineteen percent who did answer the question and gave an estimate of the annual costs indicated that their average cost for insurance was $578 and the average cost for security devices such as lights, locks or window bars, was $94. The differences between the operators of large and small farms were not statistically significant.

Sources of information on farm crime prevention (Table 12):

The source most frequently used for information about crime prevention is the Farm Bureau according to the responses to this survey. This particular finding cannot be generalized to the state's farm population, however, since all of the farmers included in the study were members of the Farm Bureau. It would have been most surprising if the Farm Bureau had **not** been mentioned by a substantial number of the respondents. Indeed, 29 percent did not indicate that the Farm Bureau was a source. This probably says more about the attentiveness of the respondents than about the contents of the information put out by that organization.

Other sources mentioned by one fifth or more of the respondents include farm magazines, friends, neighbors and relatives, the county extension agent, and newspapers. Of these four sources, farm magazines were more frequently used by the operators of large farms than by those with smaller operations. The opposite was true for newspapers as a source with those on smaller farms mentioning this source more frequently.

Mentioned by 17 or 18 percent of the respondents were television, the police or sheriff's office and radio. The operators of small and large farms do not differ in their use of these sources.

Fifteen percent of the respondents did not acknowledge receiving information on farm crime prevention from any source. Of the other sources mentioned, only the hardware or other retail store was mentioned by one group more frequently than by the other. In this case operators of the smaller farms that said this was a source more frequently. Even so, only 4 percent checked it as a source.

Other opinions about law enforcement and crime prevention on farms in Tennessee (Table 13):

The effect of stiffer penalties: Tennessee farmers agree that stiffer penalties for farm crimes would reduce their frequency and severity. The size of the farm operated did not make a difference in the strength of this opinion.

The effect of increased patrolling: These farmers also agreed that increased patrolling by the local sheriff's force would be effective in reducing the numbers of farm crimes. Again, size of farm operated made no difference.

What is the liklihood that a farm in your immediate area will be the victim of a farm crime in the next year? Across the state the operators of both large and small farms felt uncertain as to whether they or their

neighbors would be victimized in the next year. They would not say it was very likely nor would they say it was very unlikely. They apparently recognize that their areas are not immune to such events but they do not really expect that such an event will happen to or near them.

How quickly does the sheriff's office respond farmers' calls? The responses to this question varied greatly with the net result being that on the average, the sheriff's responses tend to be neither very fast nor very slow. The operators of small farms gave the sheriffs more credit for speed than did those who had larger operations.

How good is the protection provided by the sheriff's office? The average of the responses was tilted toward the "poor" end of the scale but basically the feeling was that the protection was neither very poor nor very good. Again the operators of smaller farms were more favorable than those with larger acreages concerning the quality of the protection provided by the sheriff's office. This is consistent with the operators of larger units reporting a greater frequency of vandalism, burglary and theft than did those with smaller operations.

Respondent Characteristics

Gross farm income (Table 14):

With 93 percent of the respondents marking the income category which contained the gross income from their farm in the preceding twelve months, the median income level (that which divides the incomes into equal numbers above and below) was contained in the category $20,000 to $39,999 and was probably close to the upper limit of the category. Consistent with the number of acres operated the median for the smaller farms was in the next lower category ($10,000 to $19,999) while that for the larger farms was in the next higher ($40,000 to $99,999). The difference was statistically significant at the .01 level.

Sex of respondents (Table 15):

Ninety-four percent of the respondents to this survey were male. Five percent were female with 1 percent not indicating. Farm size made no difference. According to the 1987 Census of Agriculture, 7.3 percent of the operators of farms in Tennessee were women.

Race of respondents (Table 16):

No respondent indicated that race was other-than-white. With 1.6 percent of Tennessee's farms operated by minorities, 8 or 9 of the respondents would have been other-than-white for the sample to have been precisely representative. Given that minorities tend to operate smaller farms and that operators of small farms are less likely than those with large farms to be members of the Farm Bureau, not having any black respondents is not surprising.

Age of respondents (Table 17);

The median age of operators of large farms differs significantly from

those who operate smaller units. For those with large farms, the median was 55 years. For those with smaller farms the median was 63, with the overall average for the survey respondents being 60. Sixty is somewhat older than the average of 54 years reported for Tennessee farm operators in the 1987 Census of Agriculture.

Formal education of respondents (Table 18):

The median level of formal education completed by the farm operators responding to this survey was completion of a high school education. This was also the level for the operators of small farms while the education level was somewhat higher for those with larger operations. The difference was significant at .05 level.

Work off the farm (Table 19):

Approximately two thirds of the respondents indicated that they did not work off the farm. A very substantial difference was found between those who had large and those who had small farms on this characteristic. Three fourths of those with large operations did not work off the farm compared with three fifths for those with smaller farms.

Respondent marital status (Table 20):

Significantly more of the operators of large farms were married (90 percent) than those who operated smaller units (84 percent) but by far the majority were married at the time of the survey (87 percent). A little over 3 percent had never been married with 6 percent of the respondents indicating that their marriages had been dissolved by either separation, divorce or death.

Spouse off-farm work (Table 21):

Thirty-six percent of the respondents indicated that they had a spouse that worked off the farm. About two thirds of those working off the farm had jobs that they classified as full time. No difference was found by size of farm operated.

Total household income in 1987 from all sources (Table 22):

The median income for the respondents in this survey in 1987 according to their self reports was close to $30,000. A significant difference was found between the operators of large and small farms with the median for those with larger operations falling in the $30,000 to $39,999 category while the median for those with smaller farms fell into the next lower category, $20,000 to $29,999.

Proportion of 1987 income from off farm sources (Table 23):

While one fifth of the respondents did not estimate this proportion, about equal proportions indicated that less than 20 percent of their income was from off farm sources (28 percent) and that 60 percent or more of their

income was from off the farm (28 percent). The difference between the operators of large and small operations was significant in the direction that would be expected. Those with smaller operations were much more likely to have a higher proportion of total income coming from off the farm.

SUMMARY:

This study was conducted to investigate the extensiveness and intensiveness of crime and vandalism on farms in Tennessee. It was part of a larger study being carried out in most other states in the region. It was carried out through the use of a mailed questionnaire to a sample of farm operators who were members of the Farm Bureau. The sample was designed to assure representation of all of the counties of the state and to give some degree of proportional weighting according to the number of farms in each county according to the 1982 Census of Agriculture. Of those presumed to have been eligible for participation in the study, 75 percent, or 531 returned usable questionnaires during the winter and spring of 1989. For purposes of analysis the respondents were divided into the operators of "large" and "small" farms using the median value (315 acres) as the criterion to distinguish between the two categories.

The experience of farmers with crime and vandalism is best gauged by their reports of actual events that took place during the twelve months preceding receipt of the questionnaire (roughly the calendar year 1988). Approximately one fourth of the respondents reported having had some **vandalism** (destruction or defacing of property) during this period with such events taking place on larger farms somewhat more frequently than on the smaller farms. Nine percent had experienced a **burglary** (illegal entry into the home or other farm building) during the year with the rate for the larger farms again being somewhat higher. One sixth of the farm operators reported having had a **theft** (unauthorized removal of material, machinery, tools, crops or livestock) during the year and again the frequency was higher for the larger farms. The reported dollar value of most of the losses was quite small but a few were very substantial with one reaching $15,000.

If reports of experience with a variety of types of crime and vandalism on their farms earlier than the past year were accurate, there should have been a much greater frequency than was actually reported for the past twelve months. Incidents on the farm or in the neighborhood apparently get etched in the memory generating a feeling that they happen more frequently than they really do.

Farmers' opinions about the current situation and what is changing in the realm of farm crime and vandalism includes an assessment by more than half of them that there has been little change in the past two years. However, of those who felt there had been some change, the ratio was 10 to 1 expressing the opinion that the frequency of such events had increased. The farmers also felt that judges were much too lenient with those convicted of acts of vandalism or crime on farms.

Farmer's feelings about the sheriff's offices were mixed. While there was nearly unanimous agreement that every instance of crime or vandalism should be reported to the sheriff so the matters could be properly handled, some felt that the sheriff was, perhaps, not as thorough as s/he might have been in investigating reported instances of crime on farms. In addition, the farm operators were somewhat reluctant to inform the sheriff when the family

was going to be away for more than a day or two. Some farmers also questioned the speediness with which the sheriff responded to calls for assistance and the quality of the protection provided by that office.

The most frequent security measure taken by Tennessee farmers, especially those with smaller acreages, was to see that farm buildings are visible from neighbor's houses. Locks on fuel storage tanks and lights on buildings and at strategic places are also measures taken with some frequency. Locks on farm buildings and on farm gates are rather infrequent. Possession of a handgun for protection by at least two thirds of the farmers is certainly an important security measure. Most farmers invested nothing to keep losses from crime and vandalism to a minimum. For those who did invest in insurance and/or security devices, the average cost was $672.

Information about protection from crime and vandalism for Tennessee farmers came from a variety of sources including among others, the Farm Bureau (of which all of the respondents were members), farm magazines, the county agent, newspapers and friends, neighbors and relatives. The local police or sheriff's office as well as television and radio were also mentioned with some frequency.

Finally, in terms of what might improve the crime and vandalism situation, both stiffer penalties and more frequent patrolling by police were endorsed. The farmers equivocated about the prospects of their own farms being the target of some crime or vandalism. No one can be certain of where and when criminals and vandals will strike and while the responses gave little evidence of paranoia, neither did they gloss over the possibility of their farm being the next target.

The farm operators responding to this survey operated farms that were somewhat larger than average, did not include any minority members, were older than the state average, had completed high school on the average, and did not work off the farm as much as the average Tennessee farmer.

Conclusions

Crime and vandalism on farms in Tennessee is sufficiently frequent to be considered serious. At the same time, the collective losses from these events is quite modest. Perceptions of the frequency and seriousness of farm crime and vandalism is much greater than the actual experience. Given the relative infrequency and the apparent randomness of such events, it would seem that doing the minimum to minimize losses is appropriate. There will still be isolated instances of substantial losses for which some assistance is needed. It would appear that local community support for people experiencing such losses would be the most efficient method for handling such instances as is currently the tradition in the state.

Given the predominance of feeling that the crime and vandalism situation is getting worse by those who feel there has been some change, surveys such as this one should be repeated periodically to determine the accuracy of such feelings.

TABLE 1
OPINIONS ABOUT THE CURRENT CRIME/VANDALISM SITUATION
ON FARMS IN THIS COMMUNITY, TENNESSEE, 1989

Rating scale:
1. Strongly Disagree
2. Disagree
3. Uncertain
4. Agree
5. Strongly Agree

Topic	Number Responding	Average Rating Small Farms	Large Farms	All Farms	
A. Victims of farm crime have a duty to report it to the sheriff.	522	4.30	4.33	4.32	
B. The courts in this county are too easy on persons convicted of crimes to farms.	517	4.03	4.12	4.08	
C. Vandalism (destruction or defacing) of farm property occurs more often now than it did a few years ago.	517	3.86	3.98	3.92	
D. During hunting season, I worry about the destruction of my farm property by hunters.	520	3.66	4.00	3.83	**
E. When away, I worry about the safety of my farm property (machinery, livestock, crops, and supplies)	512	3.67	3.78	3.73	
F. Illegal dumping on farm property is a problem for farmers around here.	517	3.41	3.77	3.59	**
G. I feel safe going anywhere on my farm after dark.	521	3.55	3.54	3.55	
H. When away from the farm, I can depend on my neighbors to watch my property for me	524	3.53	3.50	3.51	

(more)

Table 1 (continued)

Topic	Number Responding	Average Rating: Small Farms	Large Farms	All Farms	
I. Theft of farm property in my community has increased in recent years.	523	3.46	3.52	3.49	
J. Farmers should be required by law to put identification numbers on farm machines and equipment.	518	3.14	3.04	3.09	
K. There is little I can do to prevent crime from happening to my farm.	518	3.06	3.05	3.05	
L. The local sheriff investigates crimes against farm property very thoroughly.	516	3.19	2.83	3.01	**
M. Current laws are adequate to protect farm property.	513	2.79	2.61	2.90	*

* Difference significant at .05 level. (Chi square, 1 df)
** Difference significant at .01 level. (Chi square, 1 df)

TABLE 2
CHANGE IN FREQUENCY OF FARM CRIME IN LOCAL COMMUNITY OVER PAST TWO YEARS, TENNESSEE, 1989

Nature of Change	Small Farms	Large Farms	All Farms
	-----Percent-------		
Increased	39.9	43.6	41.8
Remained Same	54.9	52.5	53.7
Decreased	5.2	3.9	4.5
Not indicated	0.0	0.0	0.0
TOTAL	100.0	100.0	100.0

Differences not significant at .05 level. (Chi square, 2 df)

TABLE 3
EXPERIENCE WITH VANDALISM ON TENNESSEE FARMS
IN LAST 12 MONTHS, 1989 **

Experienced Vandalism	Small Farms	Large Farms	All Farms
	-----Percent-------		
No	79.9	69.3	75.6
Yes	18.2	30.3	24.3
Not indicated	1.9	0.4	1.1
N=	264	267	531

** Difference significant at .01 level. (Chi square, 1 df)

TABLE 4
KINDS OF FARM PROPERTY VANDALIZED FOR THOSE WHO
HAD VANDALISM IN THE LAST 12 MONTHS, TENNESSEE, 1989

Kind of Property	Small Farms	Large Farms	All Farms	
	-----Percent-------			
A. Farm fences and gates	49.0	43.9	45.8	
B. Other (mostly roadside littering)	36.7	31.7	33.6	
C. Crops	20.4	24.4	22.9	
D. Farm machinery	10.2	24.4	19.1	*
E. Livestock	10.2	20.7	16.8	
F. Woods	10.2	19.5	16.0	
G. Farm buildings	18.4	13.4	15.3	
H. Farm equipment	6.1	14.6	11.5	
I. Farm materials	18.4	4.9	9.9	*
J. Water	6.1	3.7	4.6	
K. Orchards	2.0	1.2	1.5	
N=	49	82	131	

*Difference significant at .05 level. (Chi square, 1 df)

TABLE 5
BURGLARY EXPERIENCED ON TENNESSEE FARMS
IN LAST 12 MONTHS, 1989 *

Experience with burglary	Small Farms	Large Farms	All Farms
	-----Percent-------		
None	93.5	88.7	91.1
House only	2.3	4.5	3.4
Barn only	2.3	3.4	2.8
Farm buildings only	1.5	2.3	1.9
House and barn	0.0	0.4	0.2
Barn and farm buildings	0.0	0.7	0.4
House, barn and other buildings	0.4	0.0	0.2
	100.0	100.0	100.0

* Difference significant at .05 level. (Chi square, 1 df)

TABLE 6
THEFT EXPERIENCED ON TENNESSEE FARMS
IN LAST 12 MONTHS, 1989 **

Experience with theft	Small Farms	Large Farms	All Farms
	-----Percent-------		
Not indicated	0.7	1.1	0.9
None	89.4	75.6	82.5
Of farm equipment	5.3	13.6	9.5
Of farm material	3.8	9.1	6.6
Of livestock	2.7	7.3	5.0
Of crops	2.3	3.1	2.7
N =	264	267	531

** Difference significant at .01 level. (Chi square, 1 df)
(Percentages add to more than 100 due to some farmers experiencing more than one kind of theft.)

TABLE 7
RESPONDENT'S EXPERIENCE WITH FARM CRIME AND VANDALISM IN PREVIOUS YEARS, TENNESSEE, 1989

Scale: 1. Never
2. Sometimes
3. Often

Type of Crime/ Vandalism	Number Responding as applicable	Average Rating Small Farms	Large Farms	All Farms
A. Vandalism of livestock, crops or timber	512	2.6	2.6	2.6
B. Vandalism of farm buildings	512	2.5	2.5	2.5
C. Vandalism of farm machines, equipment or tools	514	2.5	2.5	2.5
D. Burglary (attempted or actual break-in) of barns or other farm buildings	516	2.6	2.5	2.5
E. Theft of other livestock (poultry, horses, hogs, etc.)	168	2.6	2.5	2.5
F. Theft of farm machines, equipment or tools	518	2.5	2.5	2.5
G. Theft of farm materials (gasoline, chemicals, seeds, fertilizers)	519	2.4	2.6	2.5
H. Theft of cattle	489	2.4	2.4	2.4
I. Theft of crops (harvested or unharvested)	505	2.5	2.4	2.4
J. Vandalism (destruction or defacement) of farm house	504	2.3	2.3	2.3
K. Burglary (attempted or actual break-in) of farm house	513	2.3	2.3	2.3

No significant differences between small and large farms. (Chi square, 1 df)

TABLE 8
EXTENT OF USE OF VARIOUS KINDS OF SECURITY DEVICES ON FARMS IN TENNESSEE, 1989

Extent of use scale: 1. None used
2. Some used
3. Use for all

Type of Security Device	Number Responding as applicable	Average Extent Small Farms	Large Farms	All Farms	
A. Farm buildings visible to neighbors	510	2.3	2.1	2.2	*
B. Locks on fuel storage tanks	461	1.8	1.9	1.8	
C. Outside lights attached to barns and/or other important farm buildings	503	1.8	2.0	1.8	*
D. Security lights at strategic places on farm	492	1.6	1.8	1.7	**
E. "No trespass" or other warning signs on farm property	504	1.6	1.7	1.7	*
F. Locks on barns and other farm buildings	499	1.5	1.6	1.5	
G. Locks on farm gates	491	1.4	1.6	1.5	**
H. Locks on windows of farm buildings	459	1.2	1.3	1.3	
I. Decals indicating farm equipment and buildings are marked with identification numbers	484	1.2	1.2	1.2	
J. Locks on farm machinery	486	1.2	1.3	1.2	
K. Bars or grills on storage building windows	447	1.0	1.1	1.1	
L. Alarm systems in farm buildings	492	1.0	1.0	1.0	

* Difference significant at .05 level. (Chi square, 1 df)
** Difference significant at .01 level (Chi square, 1 df)

TABLE 9
WARNING AND PROTECTION ARRANGEMENTS
ON TENNESSEE FARMS, 1989

Item	With Item			
	Small Farms	Large Farms	All Farms	
	------Percent------			
A. Hand guns for protection	61.0	71.5	66.3	*
B. A watch dog for protection	55.6	56.9	56.2	
C. Geese or guineas for noise	12.7	7.3	10.0	*
D. Shotgun and/or rifle for protection	9.3	5.4	7.3	
E. Other	3.1	5.4	4.2	
N =	264	267	531	

* Difference significant at .05 level. (Chi square, 1 df)

TABLE 10
FREQUENCY WITH WHICH PROTECTIVE ACTIONS TAKEN ON
TENNESSEE FARMS, 1989

Frequency scale: 1. Never
2. Sometimes
3. Often
4. Always

Action	Number Responding as applicable	Average Frequency Small Farms	Large Farms	All Farms	
A. Have a neighbor watch farm when out of town	479	2.8	2.8	2.8	
B. Use brands, ear tags or notches, or other means to identify livestock	451	2.6	2.9	2.8	!
C. Have insurance on farm machinery	486	2.6	2.8	2.7	
D. Keep a record of all serial numbers on farm machinery and equipment	479	2.0	2.2	2.1	*
E. Leave farm machinery overnight in fields out of sight from your house	505	1.8	2.2	2.0	**
F. Have theft insurance on livestock	446	1.9	1.8	1.9	
G. Keep doors on farm buildings locked	484	1.7	1.8	1.8	
H. Keep farm gates locked	471	1.6	1.9	1.7	**
I. Put name or identification numbers on farm tools and other equipment	473	1.6	1.6	1.6	
J. Put name or identification numbers on farm machinery	475	1.5	1.7	1.6	*
K. Keep windows on farm buildings locked	431	1.4	1.5	1.4	

(more)

Table 10 (continued)

Action	Number Responding as applicable	Average Frequency Small Farms	Large Farms	All Farms
L. Have theft insurance on crops	444	1.4	1.3	1.3
M. Inform sheriff when away from farm for several days	474	1.3	1.3	1.3
N. Tatoo bales, sacks, or crates used for crops	392	1.1	1.1	1.1
O. Mix identification confetti with grains	367	1.0	1.0	1.0

! Approaches significance at .05 level. (Chi square, 1 df)
* Difference significant at .05 level. (Chi square, 1 df)
** Difference significant at .01 level. (Chi square, 1 df)

TABLE 11
ESTIMATED ANNUAL COSTS FOR INSURANCE AND/OR SECURITY DEVICES FOR THE FARM IN TENNESSEE, 1989

Type of cost	Small Farms	Large Farms	All Farms
	-------Percent-----		
No response, not indicated	4.9	6.0	5.5
No cost, past 3 years	79.3	71.3	75.3
Cost indicated	15.8	22.7	19.2
	----Dollars (average)----		
Insurance	479	677	578
Security devices	76	113	94

Differences not statistically significant. (Chi square, 1 df)

TABLE 12
SOURCES USED FOR FARM CRIME PREVENTION INFORMATION
TENNESSEE, 1989

Source	Small Farms	Large Farms	All Farms	
	-----Percent-------			
Farm Bureau	72.0	70.0	71.0	
Farm magazines	33.3	41.2	37.3	*
Friends, neighbors or relatives	28.4	29.6	29.0	
County Extension Agent	27.3	27.7	27.5	
Newspaper	24.2	16.9	20.5	*
Television	18.2	18.0	18.1	
Police or sheriff's office	17.4	17.6	17.5	
Radio	17.8	16.1	17.0	
Used no sources	17.1	13.9	15.4	
Civic or community organizations	7.2	7.5	7.3	
State Department of Agriculture	4.2	6.4	5.3	
Hardware or other retail store	5.7	2.3	4.0	*
Locksmith	1.1	1.9	1.5	
Farm commodity organizations	0.8	2.3	1.5	
Other	0.4	2.3	1.3	
No response, not indicated	5.3	9.3	7.3	
N =	264	267	531	

* Difference significant at .05 level. (Chi square, 1 df)

TABLE 13
OPINIONS ABOUT LAW ENFORCEMENT AND
CRIME PREVENTION ON FARMS, TENNESSEE, 1989

Opinion area	Number Responding	Average Rating: Small Farms	Large Farms	All Farms	
Stiffer penalties effect in reducing farm crimes (Scale: 1 = Very ineffective; 5 = Very effective)	519	4.1	4.1	4.1	
Increased patrolling effect in reducing farm crimes (Scale: 1 = Very ineffective; 5 = Very effective)	519	3.8	3.8	3.8	
How likely area farm will be victim of farm crime this year (Scale: 1 = Very unlikely; 5 = Very likely)	514	3.1	3.2	3.2	
Sheriff's response to farmer's call (Scale: 1 = Very Slow; 5 = Very fast)	523	3.3	3.0	3.1	*
Farm protection provided by sheriff's department (Scale: 1 = Very poor; 5 = Very good)	522	2.9	2.6	2.8	*

* Difference significant at the .05 level. (Chi square, 1 df)

TABLE 14
GROSS FARM INCOME OF RESPONDENT FARMS **

Gross income	Small Farms	Large Farms	All Farms
	------Percent------		
No response, not indicated	9.1	5.6	7.3
Less than $1,000	6.1	0.0	3.0
$1,000 to $4,999	14.0	2.6	8.3
$5,000 to $9,999	17.8	4.8	11.3
$10,000 to $19,999	24.6	6.0	15.3
$20,000 to $39,000	9.9	16.1	13.0
$40,000 to $99,999	11.0	25.8	18.5
$100,000 to $249,999	7.2	25.1	16.2
Over $250,000	0.4	13.9	7.2

** Difference significant at the .01 level. (Chi square, 7 df)

TABLE 15
SEX OF RESPONDENTS TO CRIME AND VANDALISM SURVEY
TENNESSEE, 1989

Respondent's sex	Small Farms	Large Farms	All Farms
	------Percent------		
No response, not indicated	1.1	1.5	1.3
Male	92.4	94.8	93.6
Female	6.4	3.8	5.1
N =	264	267	531

Difference not statistically significant. (Chi square, 1 df)

TABLE 16
RACE OF RESPONDENTS TO CRIME AND VANDALISM SURVEY
TENNESSEE, 1989

Respondent's race	Small Farms	Large Farms	All Farms
	------Percent------		
No response, not indicated	0.8	0.8	0.8
White	99.2	99.3	99.3
Black	0.0	0.0	0.0
Other	0.0	0.0	0.0
N =	264	267	531

Difference not statistically significant. (Chi square, 1 df)

TABLE 17
AGE OF RESPONDENTS TO CRIME AND VANDALISM SURVEY
TENNESSEE, 1989 **

Respondent's age	Small Farms	Large Farms	All Farms
	------Percent------		
No response, not indicated	1.9	1.1	1.5
Under 25 years	1.1	0.4	0.8
25 to 39 years	11.4	16.8	14.1
40 to 54 years	18.2	32.6	25.4
55 to 69 years	42.0	35.6	38.8
70 years or more	25.4	13.5	19.4
N =	264	267	531

** Difference statistically significant at .01 level. (Chi square, 3 df)

TABLE 18
FORMAL EDUCATION OF RESPONDENTS TO CRIME AND VANDALISM SURVEY, TENNESSEE 1989 *

Education completed	Small Farms	Large Farms	All Farms
	------Percent------		
No response, not indicated	1.1	1.9	1.5
Less than 9 years	12.5	5.2	8.9
Some high school	11.7	10.1	10.9
High school	34.1	33.7	33.9
Some vocational or college beyond high school	14.8	14.2	14.5
Vocational degree program	1.9	1.9	1.9
2-year college program	3.4	6.4	4.9
4-year college program	13.6	20.2	17.0
Graduate or professional degree program	6.8	6.4	6.6
N =	264	267	531

* Difference significant at .05 level. (Chi square, 2 df)

TABLE 19
INVOLVEMENT IN OFF-FARM WORK OF RESPONDENTS TO CRIME AND VANDALISM SURVEY, TENNESSEE 1989 **

Off-farm work	Small Farms	Large Farms	All Farms
	------Percent------		
No response, not indicated	1.9	2.6	2.2
Do not work off farm	59.5	75.7	67.6
Part-time	18.2	11.6	14.9
Full-time	20.5	10.1	15.3
N =	264	267	531

** Difference significant at .01 level. (Chi square, 2 df)

TABLE 20
MARITAL STATUS OF RESPONDENTS TO CRIME AND VANDALISM SURVEY, TENNESSEE, 1989 *

Marital status	Small Farms	Large Farms	All Farms
	------Percent------		
No response, not indicated	3.8	3.4	3.6
Married	84.1	89.9	87.0
Never married	4.2	2.6	3.4
Separated, divorced or widowed	8.0	4.1	6.0
N=	264	267	531

* Difference significant at .05 level. (Chi square, 1 df)

TABLE 21
INVOLVEMENT IN WORK OFF FARM OF SPOUSE OF RESPONDENTS TO CRIME AND VANDALISM SURVEY, TENNESSEE, 1989

Off farm work status	Small Farms	Large Farms	All Farms
	------Percent------		
No response, not indicated or no spouse	17.1	12.4	14.7
Does not work off farm	49.2	49.1	49.2
Works off farm, part-time	12.5	13.1	12.8
Works off farm, full-time	21.2	25.5	23.4
N =	264	267	531

Difference not statistically significant. (Chi square, 1 df)

TABLE 22
TOTAL 1987 INCOME FROM ALL SOURCES FOR HOUSEHOLDS OF RESPONDENTS TO SURVEY OF FARM CRIME AND VANDALISM, TENNESSEE, 1989 **

Income level	Small Farms	Large Farms	All Farms
	------Percent------		
No response, not indicated	14.0	15.7	14.9
Less than $10,000	8.7	5.6	7.2
$10,000 to $19,999	20.1	11.6	15.8
$20,000 to $29,999	21.2	14.2	17.7
$30,000 to $39,999	14.4	18.7	16.6
$40,000 to $49,999	7.6	11.6	9.6
$50,000 to $74,999	9.9	7.5	8.7
$75,000 to $99,999	1.1	5.6	3.4
$100,000 or more	3.0	9.4	6.2
N =	264	267	531

** Difference significant at .01 level. (Chi square, 7 df)

TABLE 23
PROPORTION OF 1987 TOTAL HOUSEHOLD INCOME FROM OFF-FARM SOURCES FOR RESPONDENTS TO CRIME AND VANDALISM SURVEY, TENNESSEE, 1989 **

Income proportion	Small Farms	Large Farms	All Farms
	------Percent------		
No response, not indicated	18.2	21.0	19.6
Less than 20 percent	22.0	33.3	27.5
20 percent to 39 percent	8.0	13.5	10.7
40 percent to 59 percent	12.9	14.6	13.7
60 percent to 79 percent	17.0	11.2	14.1
80 percent or more	22.0	6.7	14.3
N =	264	267	531

** Difference significant at .01 level. (Chi square, 4 df)

1.Bureau of the Census, U. S. Department of Commerce, 1987 Census of Agriculture.

2.Leuthold, Frank O., "Development of General Farm Organizations in the South." Paper presented at the Mid South Sociological Association meeting, Memphis, Tennessee, November 1, 1979, p. 35.

3.Southern Regional Project S-193. Victimization and Prevention of Rural Crime. Participating states included Alabama, Arkansas, Florida, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina and Virginia.